What is claimed is:

1. A method for manufacturing a multifocal lens, comprising depositing on at least a portion of a surface of a lens substrate at least one layer of a surface forming amount of a high refractive index material, wherein the material is deposited under conditions suitable to form on the lens substrate surface a near vision zone, an intermediate vision zone, or a combination thereof.

2. The method of claim 1, wherein the high refractive index material is deposited under conditions suitable to form the near vision zone and the intermediate vision zone.

3. The method of claim 1, wherein the high refractive index material is deposited on the entire surface of the lens substrate.

4. The method of claim 2, wherein the high refractive index material is deposited on the entire surface of the lens substrate.

5. The method of claim 1, 2, 3, or 4, wherein the high refractive index material is selected from the group consisting of Si_3N_4, SiO_xN_y, ZrO_2, Ta_2O_5, Al_2O_3, TiO_2, Cr_2O, Nb_2O_5, MgO, In_2O_3-SnO_2, HfO_2, Y_2O, diamond, diamond-like carbon, nitride and combinations thereof, wherein x is about 0 to about 2 and y is about 0 to about 1.33.

6. The method of claim 5, wherein the deposition is carried out so that a refractive index modulation is formed.

7. The method of claim 5, wherein the deposition is carried out so that a refractive index gradient is formed.

8. A multifocal lens produced by the method of claim 1, 2, 3 or 4.

9. A multifocal lens produced by the method of claim 5.

10. A multifocal lens produced by the method of claim 6.

11. A multifocal lens produced by the method of claim 7.

12. A method for manufacturing a lens capable of correcting at least one higher order ocular aberration, comprising depositing on at least a portion of a surface of a lens substrate at least one layer of a surface forming amount of a high refractive index material, wherein the material is deposited under conditions suitable to form a surface capable of correcting the at least one higher order optical aberration.

13. The method of claim 12, wherein the high refractive index material is deposited on the entire surface of the lens substrate.

14. The method of claim 12, wherein the high refractive index material is deposited on the entire surface of the lens substrate.

15. The method of claim 12, 13, or 14, wherein the high refractive index material is selected from the group consisting of Si_3N_4, SiO_xN_y, ZrO_2, Ta_2O_5, Al_2O_3, TiO_2, Cr_2O, Nb_2O_5, MgO, In_2O_3-SnO_2, HfO_2, Y_2O, diamond, diamond-like carbon, nitride and combinations thereof, wherein x is about 0 to about 2 and y is about 0 to about 1.33.

16. A multifocal lens produced by the method of claim 12, 13 or 14.

17. A multifocal lens produced by the method of claim 15.